

## Introduction

### Section 1

The J1B and J2B Signal Generators, like their well-established fore-runners the J1 and J2, are two similar instruments which provide sinusoidal outputs in the frequency range 15c/s to 50kc/s. Two separate output arrangements with continuous level control are provided on each instrument. One output is of 6000 impedance and isolated from earth, having a maximum output level of 1W; the alternative output has an impedance of 5Ω connected to earth and with an output level of at least 500 milliwatts.

The J1B version of the instrument uses a calibrated output control to give an indication of output level, while the J2B output level is indicated on a front panel meter.

Each instrument contains a resistance-capacitance Wien bridge oscillator which is connected to the output stage via a buffer amplifier. The inherent stability of the oscillator and the use of feedback circuits contribute to an output which is substantially constant over the whole frequency range. Overall distortion at full output power is less than 2% (34dB down on fundamental).

The J1 and J2B operate from a.c. power supplies of 105 to 125V and 210 to 250V, 40 to 100c/s.

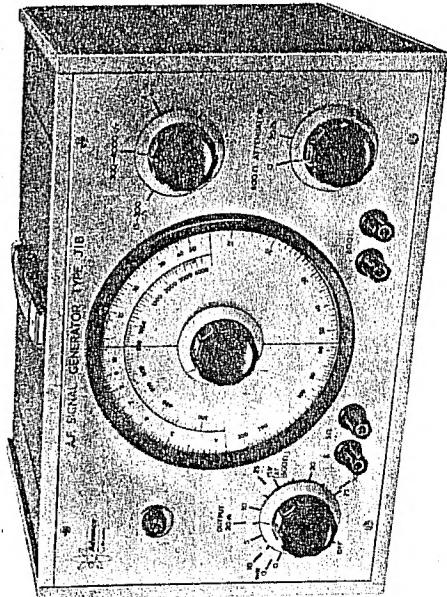
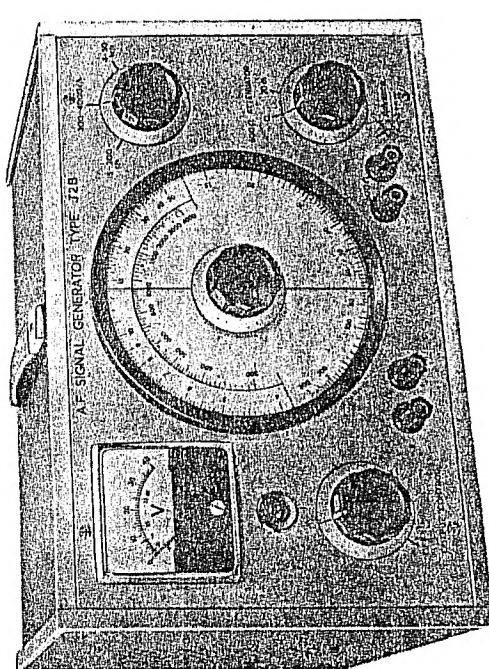


Fig. 1 Low frequency signal generators J1B and J2B

## Specification

## Section 2

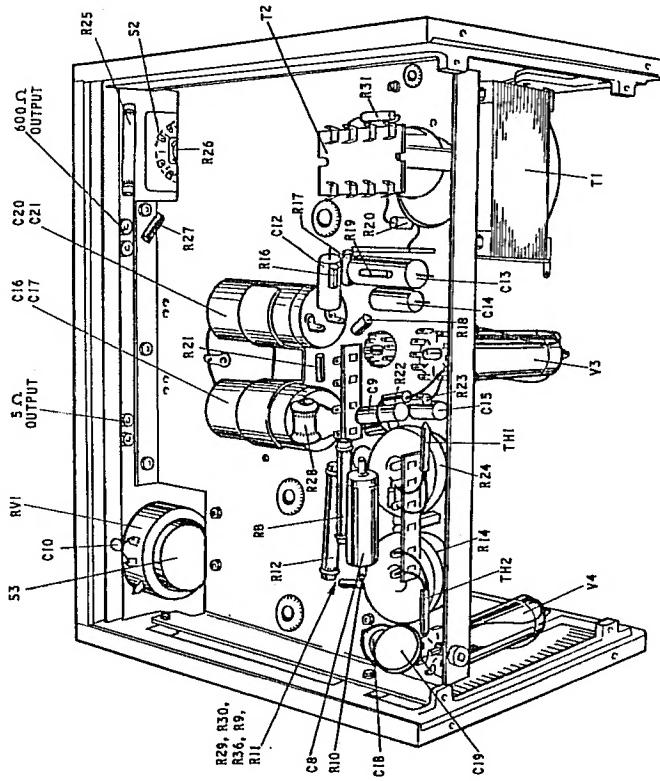
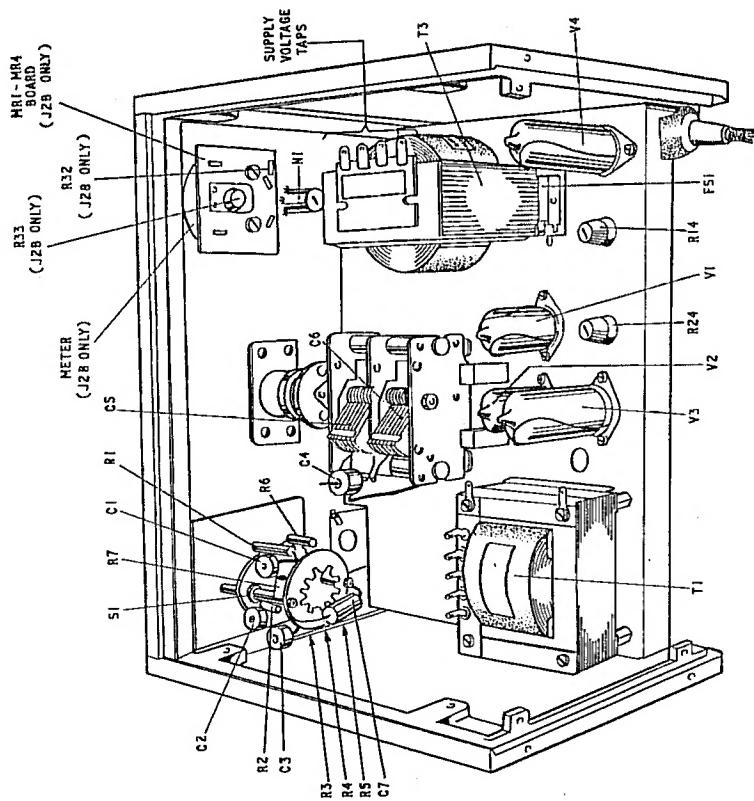
Frequency Ranges	A - 4kc/s to 50kc/s B - 300c/s to 4kc/s C - 15c/s to 300c/s Accuracy $\pm$ (2% + 1c/s).	Distortion	Total harmonic and hum content as compared with fundamental, above 100c/s:
Output	Output into $600\Omega$ 0.1mW to 1W (0.25V to 25V), continuously variable.	Accuracy: Model J1B $\pm$ 2dB Model J2B $\pm$ (1dB + 1.5% F.S.D.)	better than 34dB down (2%) at full output
Output Impedance	Maximum output into $5\Omega$ greater than 500mW, continuously variable.	The output impedance approximates to $600\Omega$ over the whole range. Where close accuracy is required the 20dB attenuator should be used.	better than 40dB down (1%) at 100mW.
Attenuator	A 20dB $600\Omega$ attenuator is incorporated. This is a $\pi$ pad built of close tolerance resistors.	When switched in circuit it provides a very accurate output impedance with a maximum output of 10mW (2.5V).	There is a slight increase in distortion below 100c/s, but it is still low, down to 15c/s.
Power Supplies	Consumption	J1B, J2B: 105 to 125V, 210 to 250V, a.c. only, 40 to 100c/s.	Approximately 40W.
Dimensions	Dimensions	11 1/8in. wide, 7 5/8in. high, 9 5/8in. deep (28.3 x 19.4 x 24.4 cm).	11 1/8in. wide, 7 5/8in. high, 9 5/8in. deep (28.3 x 19.4 x 24.4 cm).
Weight	Weight	20 lb (9.1kg).	Light blue case and side panels with otter grain finish, medium grey painted frame with light grey front panel.
Finish	Finish		

## Maintenance

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## Section 5

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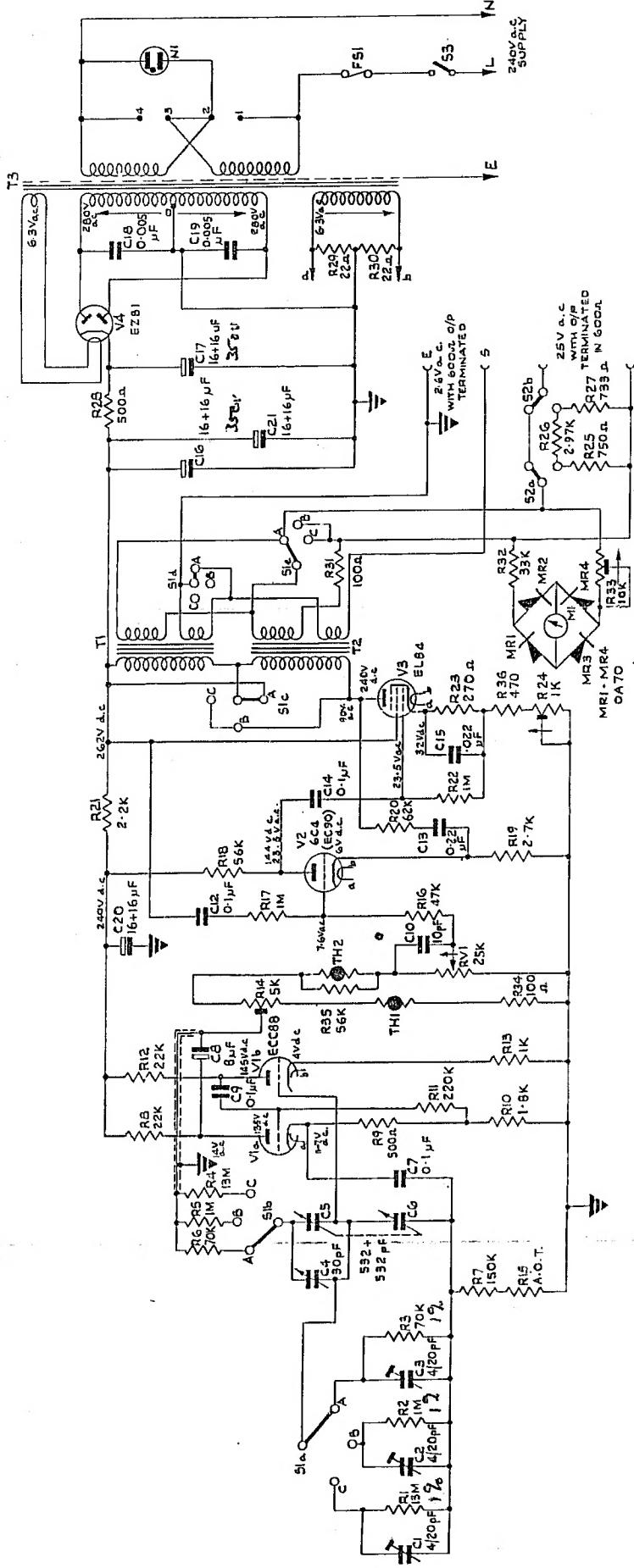


Fig. 3 JIB & J2B circuit diagram

**NOTES**

- 1 For J1B NA only. T3 primary winding is far 1V 25-50c/s supplies.
- 2 Meter M1 used on Sig. Gen. J2B only.
- 3 All D.C. measurements with 200Ω per Volt M.A. A.C. measurements with A.C. Millivolt (Adams Type 77C) with J1B, J2B set to 1Kc/s 25V output.

Part No.	Description	Part No.
ECC518	SC1 (ECM)	4541
EL244	EL244	4549
E281	E281	12795
L1A1C1US	L1A1C1US	130770
Fans 500mA /Vee L1L1L5S		.352
Resistor Network Q170-70 (218 min)		242
Meter 0-40V AC 0-1.5mA DC (218 min)	A15132	
Neon pilot lamp 100-125V		1165
Altimeter switch D 10e - A4673		17257
Attenuator switch		7702
Mains switch		
Output transformer line	MTR115	
Output transformer high	MTR116	
Mains transformer	MTR1148	
Input 110-125V 50-100Hz /		
STLC Thermistor 1327/110		6719
Thermistor 144		7841
Instruction Manual		17269